

REMARKS

Claims 1, 4, 17, 20, 21, 23, 51, 52, 54-59, 61, 71 and 72 have been amended. Claims 3, 19 and 53 have been cancelled, and claims 73-76 have been added. Therefore claims 1, 2, 4-15, 17, 18, 20-31, 33-37, 51, 52, 54-59 and 61-76 are pending in the application. Reconsideration is respectfully requested in light of the following remarks.

Section 101 Rejection:

The Examiner rejected claims 1-15, 17-31, 33-37, 51-59 and 61-72 under 35 U.S.C. § 101 because “the claimed invention is directed to non-statutory subject matter.” Specifically, the Examiner asserts that independent claims 1, 17, 33, 51, 61, 65, 70 and 71 “do not appear to require any computer hardware to implement the claimed invention.” Applicants traverse this rejection for at least the reasons below.

Contrary to the Examiner’s assertion, claims 17 and 65 (and their respective dependent claims) are directed to *distributed computer systems* and each claim specifically recites both a service *device* and a client *device*. Similarly, claims 33 and 70 (and their respective dependent claims) each recite a *device* comprising various components. As such, the Examiner’s assertion that independent claims 17, 33, 65 and 70 appear “to be comprised entirely of software without claiming associated computer hardware” is clearly erroneous.

Additionally, independent method claims 1 and 61 have been amended to recite *computer implemented* methods and independent medium claims 51 and 71 have been amended to recite *tangible, computer readable* mediums. Withdrawal of the § 101 rejections is respectfully requested.

Section 112 Rejections:

The Examiner rejected claims 1-15, 17-31, 33-37, 51-59 and 61-72 under 35 U.S.C. § 112, first paragraph, as well as U.S.C. § 112, second paragraph. Applicants respectfully traverse these rejections for at least the reasons presented below.

Applicants submit that the § 112 first and second paragraph rejection of claims 17-31, 33-37, and 70 is improper and respectfully request the removal of the § 112 rejections. The Examiner rejects these claims under § 112, first paragraph because “the claimed invention is not supported by either a specific and substantial utility or a well established utility for the reasons set forth above [regarding the § 101 rejection], one skilled in the art clearly would not know how to use the claimed invention.” Similarly, the Examiner rejects these claims under § 112, second paragraph “as being incomplete for omitting essential elements” and that the “essential elements are computer hardware necessary to execute the claimed software and render the invention operative.” However, as noted above, claims 17-31 and 65 - 69 are directed to distributed *computing* systems, comprising service *devices* and client *devices*. Claims 33-37 and 70 are similarly directed to *devices*. As such, Applicants submit that § 112 first and second paragraph rejections of claims 17-31, 33-37, and 70 are clearly improper and request removal thereof.

Additionally, as noted above regarding the § 101 rejection, method claims 1-15 and 61-64 have been amended to recite *computer implemented* methods and claims 51-59 and 71-72 have been amended to recite *tangible, computer readable* mediums to overcome the § 112 rejections of these claims.

For at least the reasons presented above, Applicants respectfully request removal of the § 112 first paragraph and second paragraph rejections.

Section 103(a) Rejections:

The Examiner rejected claims 1-11, 17-26, 33-36 and 51-57 under 35 U.S.C. § 103(a) as being unpatentable over Brandle et al. (U.S. Patent 5,218,699) (hereinafter “Brandle”) in view of Anderson, et al. (Professional XML, pages 497-511, 542-543) (hereinafter “Anderson”), claims 12, 27, 28, 37, 58, 61, 65, 66, 70 and 71 as being unpatentable over Brandle in view of Anderson as applied to claims 1, 17, 33 and 51 above, and further in view of Duault et al. (U.S. Patent 5,428,781) (hereinafter “Duault”), and claims 15, 31, 64 and 69 as being unpatentable over Brandle in view of Anderson and Duault as applied to claims 12, 27, 61 and 65 above, and further in view of Cuomo (U.S. Patent 6,185,614). Applicants respectfully traverse these rejections for at least the reasons presented below.

Regarding claim 1, Brandle in view of Anderson fails to teach or suggest a client comprising a client method gate, wherein the method gate is generated for the client according to a data representation language schema defining one or more method interfaces for a service in the distributed computing environment. Neither Brandle nor Anderson makes any mention of a data representation language schema defining one or more method interfaces for a service in the distributed computing environment. Additionally, neither Brandle nor Anderson, whether considered separately or in combination, teaches or suggests a method gate *generated according* to such a data representation language schema. The service director 102, remote router service 106 and data mapper 112 of Brandle relied upon by the Examiner to teach a client method gate in the rejection of claim 3 are not generated according to a data representation language schema. For instance, Brandle teaches that remote router service 106 is a library procedure, but fails to mention anything about a data representation language schema. Anderson fails to overcome any deficiency of Brandle regarding a client method gate generated according to a data representation language schema defining one or more method interfaces for a service.

Additionally, in regard to claim 1, Brandle in view of Anderson fails to teach or suggest the client method gate generating the message for the client, wherein the message is generated as defined by the data representation language schema. In contrast, Brandle teaches a data mapper 112 that “controls the formatting of messages transferred over the network” (Brindle, column 7, lines 29-31). Moreover, data mapper 112 does not send any messages, however, but instead only formats procedure information, such as parameters, and interprets received messages. (Brandle, Fig. 4; column 7, lines 20-40; column 8, lines 34-46, and line 56 – column 9, line 30). Thus, data mapper 112 cannot be considered a client method gate nor is it generated according to a data representation language schema. Anderson fails to mention anything about a message being generated as defined in a data representation language schema according to which the client method gate was generated. Thus, the Examiner’s combination Brandle and Anderson does not teach or suggest the client method gate generating the message for the client, wherein the *message is generated as defined by the data representation language schema*.

For at least the reasons above, the rejection of claim 1 is not supported by the prior art and removal thereof is respectfully requested. Similar remarks also apply to claims 17, 33, and 51.

Regarding claim 61, contrary to the Examiner’s assertions, Brandle in view of Anderson in further view of Duault does not teach or suggest storing the generated results data to a space service in the distributed computing environment. The Examiner argues that queue 116 of Brandle is a space service. However, Brandle describes queue 116 as a local software queue, not as a service in a distributed computing environment. The Examiner contends that queue 116 “stores generated results data, which provides a queuing service.” However, a simple software queue, such as queue 116 is not a service in a distributed computing environment, as services are understood in the art. No one of ordinary skill in the art would consider queue 116 as a space service in a distributed computing environment.

Additionally, Brandle in view of Duault further fails to teach or suggest providing an advertisement for the stored results data to the client, wherein the advertisement comprises information to enable access by the client to the stored results data, and the client accessing the stored results data from the space service in accordance with the information in the provided advertisement. As noted above, the Examiner refers to queue 116 in Brandle as a space service. However, Brandle describes queue 116 as a local software queue, not as a service in a distributed computing environment. The Examiner also relies on the queue empty/non-empty (E-NE) signal in Duault to teach providing an advertisement for the stored results data to the client, wherein the advertisement comprises information to enable access by the client to the stored results data. However, Duault's E-NE signal is simply a hardware signal sent from memory device 1 to processors 2 that indicates that Duault's data message queue has transitioned from empty to non-empty, or vice versa (Duault, column 4, lines 30 – 42). A hardware signal indicating a simple transition from empty to non-empty does not teach or suggest an advertisement for stored results data, wherein the advertisement comprises information to enable access to the stored results. Furthermore, a hardware signal between a memory device and processors does not suggest any modification to the software queue mechanism of Brandle.

The Examiner argues, in the Response to Arguments, that Duault's E-NE signal provides information to enable access by providing an empty or non-empty status of Duault's message queue. However, the E-NE signal in Duault only notifies the processors that data is in the queue, which is then processed by the least busy processor (Duault -- col. 4, lines 30-59). The E-NE signal is simply an empty/non-empty notification. It does not include any *information to enable* access to the queue. The processors in Duault are clearly already capable of accessing the queue. Therefore, even if it made sense to apply the hardware E-NE signal of Duault to the teaching of Brandle, it would at most suggest a simple notification to application 100 that data is present on queue 116. However, just like the processors in Duault already know how to access the queue, the application 100 in Brandle already knows how to access queue 116. Duault's E-NE signal does not enable access to Duault's message queue, but instead, merely

provides *timing information* about when to access the queue. If the E-NE signal did enable access to the message queue, not processor could ever perform a DEQUEUE operation an empty queue, which is clearly not the case.

In response, the Examiner asserts that if Applicants' space service differs from the Examiner interpretation of the combined teaches of Brandle and Duault, "such difference has not been brought out by the claim language." Applicants disagree. As noted above, Applicants' claim 61 recites, in part, storing the generated results data *to a space service* in the distributed computing environment and providing an *advertisement* for the stored results data to the client, wherein the advertisement *comprises information to enable access* by the client to the stored results data. The queue 116 of Brandle is clearly not a space service, as services are understood in the art. Similarly, Duault's E-NE signal is clearly not an advertisement, as advertisements are understood in the art. Furthermore, a single bit serving as an E-NE signal cannot be considered to teach or suggest an advertisement comprising information to enable access to stored results data. Thus, Applicants' claimed subject matter is clearly not taught or suggested by the Examiner's proposed combination of prior art.

Furthermore, Brandle explicitly teaches that the application 100 accesses queue 116 to check for results without any additional information. There is no reason to modify Brandle to include an E-NE signal for queue 116. Thus, there is no suggestion in any combination of Brandle and Duault to provide an advertisement that comprises information to enable access by the client to stored results data. Moreover, the Examiner's reason to combine Duault and Brandle does not make sense in the context of Brandle's system and is not commensurate with the teachings of Duault relied upon by the Examiner. The Examiner states that one of ordinary skill in the art would be motivated to combine Brandle and Duault to render the execution of service procedures more fault tolerant. However, the fault tolerance in Duault comes from having the scheduler implemented on multiple processors, not the E-NE signal. Thus, a desire for fault tolerance does not suggest anything about modifying the queue implementation in Brandle.

In response, the Examiner argues that the “test for obviousness is not whether the features of one reference may be bodily incorporated into the other reference to produce the claimed subject matter but simply what the references make obvious to one of ordinary skill in the art.” The Examiner has apparently misunderstood Applicants’ argument. Applicants are not arguing that Duault cannot be bodily incorporated into Brindle. Instead, Applicants are arguing that there is no suggestion or motivation to combine the E-NE signal of Duault into Brindle’s system in the manner proposed by the Examiner. No one of ordinary skill in the art would be motivated to include an E-NE signal for Brindle’s queue 116. Specifically, no one concerned with improving the fault tolerance of Brindle’s system, (the Examiner’s stated motivation to combine Duault with Brindle and Anderson) would be motivated to include an E-NE signal for queue 116. Therefore, as argued previously, the Examiner has failed to provide a proper motivation to combine Brindle, Anderson and Duault. Furthermore, the Examiner is clearly applying hindsight analysis when attempting to combine Duault’s E-NE signal to Brindle’s queue 116.

Moreover, as discussed above, even if Duault’s E-NE signal was applied to the queue in Brindle’s system, such a combination would still not teach providing an *advertisement* for the stored results data to the client, wherein the advertisement *comprises information to enable access* by the client to the stored results data. The E-NE teachings of Duault have absolutely nothing to do with providing an *advertisement* for stored results data to the client, wherein the advertisement *comprises information to enable access* by the client to the stored results data.

In response to Applicants’ arguments above regarding the deficiencies of the Examiner’s stated motivation to combine, the Examiner also asserts that “the fault tolerance of Duault come[s] from the entire system of Duault, including the scheduler and the use of E-NE signal which are all integral parts of the system of Duault” (emphasis added). This is exactly Applicants’ point. If one of ordinary skill in the art desired fault tolerance, he may use the fault tolerant multiprocessor hardware described in Duault, but

such a desire for fault tolerance provides no motivation whatsoever to modify the software queue of Brandle. Thus, the Examiner has clearly failed to state a proper motivation to her proposed modification of the art. Moreover, as noted above, no one of ordinary skill in the art would be motivated to include an E-NE signal as taught by Duault in Brandle's queue 116, regardless of any desire to improve the fault tolerance of Brandle's system.

Thus, for at least the reasons above, the rejection of claim 61 is not supported by the prior art and removal thereof is respectfully requested. Similar remarks also apply to claims 70 and 71.

Regarding claim 65, Brandle in view of Anderson in further view of Duault fails to teach or suggest a space service device configured to receive and store results from service devices in the distributed computing system. The Examiner does not provide a separate rejection for claim 65, but instead relies upon the rejections of claims 17 and 27. However, claim 65 has a different scope than claims 17 and 27. Specifically, claim 65 recites a space service device. The Examiner contends that queue 116 of Brandle is a space service, but fails to cite any prior art that teaches or suggest a space service device. Brandle's queue 116 can in no way be considered a space service *device* configured to receive and store results from service devices in a distributed computing system.

In response to the above argument when presented previously, the Examiner contends that that Applicant's claims do not recite a space service device. However, as noted above, claim 65 clearly recites a space service device. Thus, the Examiner's assertions regarding claim 65 are incorrect.

In further regard to claim 65, Brandle in view of Anderson in further view of Duault fails to teach or suggest a service device configured to store results data to the space service device. The Examiner cites Brandle's queue 116. However, the remote device of Brandle, which the Examiner equates to the service device of Applicants'

claims, does not store anything to queue 116, instead, Brandle's originating node, which the Examiner equates to the client device of Applicants' claims, places received messages on queue 116. As neither Anderson nor Duault is not relied upon by the Examiner to teach a service device configured to store results data to a space service device, Anderson and Duault, whether considered separately or in combination, fail to overcome the above noted deficiencies of Brandle. Thus, the Examiner's proposed combination of Brandle, Anderson and Duault fails to teach or suggest a service device configured to store results data to the space service device.

Brandle in view of Anderson in further view of Duault also fails to teach or suggest a service device configured to provide an advertisement for the stored results data to the client device, wherein the advertisement comprises information to enable access by the client device to the stored results data. The Examiner argues that Duault's E-NE signal is an advertisement to stored results data that includes information to enable access by a client device to the stored results data. However, as noted above regarding claim 61, Duault's E-NE signal clearly fails to teach or suggest an advertisement to stored results data that includes information to enable access by a client device to the stored results data. For a detailed discussion regarding Duault's E-NE signal, please refer to the remarks above regarding claim 61.

Furthermore, the Examiner's proposed combination of Brandle, Anderson and Duault clearly fails to teach or suggest a service device providing an advertisement for stored results data to a client device, wherein the advertisement comprises information to enable access by the client device to the stored results data. Duault's E-NE signal can clearly not be sent between the two devices of Brandle's system between which messages are passed, and upon which the Examiner relies in her rejection of claim 65.

Thus, for at least the reasons above, the rejection of claim 65 is not supported by the prior art and removal thereof is respectfully requested.

Applicant also asserts that numerous ones of the dependent claims recite further distinctions over the cited art. However, since the rejection has been shown to be unsupported for the independent claims, a further discussion of the dependent claims is not necessary at this time.

Allowable Subject Matter:

Claims 13, 14, 29, 30, 59, 62, 63, 67, 68 and 72 were objected to as being dependent upon a rejected base claim, but otherwise allowable if rewritten to overcome the rejections under 35 U.S.C. § 101 and § 102. In light of the above remarks, Applicants assert that claims 13, 14, 29, 30, 59, 62, 63, 67, 68 and 72 are allowable as currently pending.

CONCLUSION

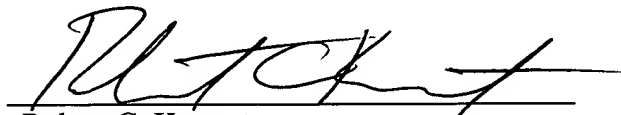
Applicants submit the application is in condition for allowance, and notice to that effect is respectfully requested.

If any extension of time (under 37 C.F.R. § 1.136) is necessary to prevent the above referenced application from becoming abandoned, Applicants hereby petition for such extension. If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/5181-57500/RCK.

Also enclosed herewith are the following items:

- ☒ Return Receipt Postcard
- ☐ Petition for Extension of Time
- ☐ Notice of Change of Address
- ☐ Other:

Respectfully submitted,



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